



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,621	12/16/2003	Akira Shimizu	829-619	2644
23117	7590	03/21/2006	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			ARANCIBIA, MAUREEN GRAMAGLIA	
			ART UNIT	PAPER NUMBER
			1763	
DATE MAILED: 03/21/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,621

Applicant(s)

SHIMIZU ET AL.

Examiner

Maureen G. Arancibia

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7-14, 18-22 and 27 is/are rejected.
- 7) ☒ Claim(s) 4-6, 15-17 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of the invention of Group I in the reply filed on 29 December 2005 is acknowledged.
2. The Examiner notes the cancellation of non-elected claims 23-26 in the amendments filed on 29 December 2005.

Information Disclosure Statement

3. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. **Claims 1-3 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by German Patent Application Publication 3336652 A1 to Bubenzer et al. The following rejection refers to the Figures and English Abstract of this Publication.**

Bubenzer et al. teaches a plasma CVD apparatus (Figures 1 and 3), comprising an anode electrode 4 and a cathode electrode 5, which is for forming a thin film on a substrate by performing plasma discharge between the electrodes (Abstract), comprising: a substrate holder 19 disposed between the electrodes; and one conductive member 26 disposed between the substrate holder and the cathode electrode (Figure 3; Abstract), wherein the substrate holder supports the substrate 23, and conductive member is provided between the electrode 5 and the substrate holder 19 so as to substantially cover an entire space between the electrode 5 and the substrate holder 19 (Figure 3), and the conductive member 26 is electrically connected to the electrode 5 and the substrate holder 19 (Abstract).

In regards to Claim 2, the shapes of the electrodes are plate-like shapes (Figure 3).

In regards to Claim 3, plasma discharge is performed between the electrodes by applying a voltage between the electrodes with a raw material gas supplied between the electrodes. (Figures 1 and 3; Abstract)

In regards to Claims 8 and 9, the conductive member is attached to the cathode electrode 5 and the substrate holder 19 (Figure 3).

In regards to Claim 10, the apparatus further comprises a container 1 enclosing the electrodes, the substrate holder, and the conductive member (Figure 1), the conductive member being attached to the inner surface of the container via pedestal 7.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenzer et al. in view of U.S. Patent 6,827,787 to Yonezawa et al.

The teachings of Bubenzer et al. were discussed above.

Bubenzer et al. does not expressly teach that the apparatus comprises a heater integrally attached to the electrode 5.

Yonezawa et al. teaches that a heater is integrally attached to a prior art electrode 108. (Column 1, Lines 43-45)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by Bubenzer et al. for a heater to be integrally attached to the electrode. The motivation for doing so, as taught by Yonezawa et al. (Column 1, Lines 43-45), would have been to heat the substrate as necessary.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenzer et al. in view of U.S. Patent 3,241,519 to Lloyd.

The teachings of Bubenzer et al. were discussed above.

Bubenzer et al. does not expressly teach that the apparatus comprises a tension adjusting member attached to the conductive member.

Lloyd teaches a tension adjusting member 24 attached to conductive member 28. (Figure 2; Column 2, Lines 10-30 and 62-72)

It would have been obvious to one of ordinary skill in the art to modify the apparatus taught by Bubenzer et al. to include a tension adjusting member attached to the conductive member. The motivation for making such a modification, as taught by Lloyd (Column 2, Lines 70-71; Column 3, Lines 3-4), would have been to prevent the conductive member from sagging due to thermal deformation.

9. Claims 12-14, 19-21, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenzer et al.

The teachings of Bubenzer et al. were discussed above.

In regards to Claims 12 and 27, Bubenzer et al. does not expressly teach that the conductive member 26 comprises a plurality of conductive members, specifically spaced apart conductive members.

Nevertheless, it would have been obvious to one of ordinary skill in the art to construct conductive member 26 of a plurality of juxtaposed, closely spaced conductive strips. The motivation for doing so would have been to allow damaged or overly coated (Bubenzer et al., Abstract) sections to be replaced without necessitating replacement of the entire conductive piece.

In regards to Claims 13, 14, and 19-21, see the discussion of Claims 2, 3, and 8-10 above.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenzer et al. as applied to Claim 12, and further in view of Yonezawa et al.

The teachings of Bubenzer et al. as applied to Claim 12 were discussed above.

Bubenzer et al. does not expressly teach that the apparatus comprises a heater integrally attached to the electrode 5.

Yonezawa et al. teaches that a heater is integrally attached to a prior art electrode 108. (Column 1, Lines 43-45)

It would have been obvious to one of ordinary skill in the art to further modify the apparatus taught by Bubenzer et al. for a heater to be integrally attached to the electrode. The motivation for doing so, as taught by Yonezawa et al. (Column 1, Lines 43-45); would have been to heat the substrate as necessary.

11. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bubenzer et al. as applied to Claim 12, and further in view of Lloyd.

The teachings of Bubenzer et al. as applied to Claim 12 were discussed above.

Bubenzer et al. does not expressly teach that the apparatus comprises a tension adjusting member attached to the conductive member.

Lloyd teaches a tension adjusting member 24 attached to conductive member 28. (Figure 2; Column 2, Lines 10-30 and 62-72)

It would have been obvious to one of ordinary skill in the art to further modify the apparatus taught by Bubenzer et al. to include a tension adjusting member attached to the conductive member. The motivation for making such a modification, as taught by Lloyd (Column 2, Lines 70-71; Column 3, Lines 3-4), would have been to prevent the conductive member from sagging due to thermal deformation.

Allowable Subject Matter

12. Claims 4-6, 15-17, and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims, and amended to overcome the objections discussed above.

13. The following is a statement of reasons for the indication of allowable subject matter:

In regards to Claims 4-6 and 15-17, the prior art of record does not teach or fairly suggest that the conductive member or plurality of conductive members include a **supporting plate and a plurality of conductive plates or portions provided on the upper and lower surfaces of the supporting plate in leaf-spring, arc, or brush shapes, wherein the conductive plates or portions on the lower surface of the supporting plate are in contact with one electrode and the plates or portions on the upper surface of the supporting plate are in contact with the substrate holder.**

In regards to Claim 28, the prior art of record does not teach or fairly suggest, in the context of the independent claim, that **the conductive member comprises a plurality of spaced apart leaf-spring like conductive plates**, at least some of the leaf-spring like conductive plates contacting the one electrode.

Response to Arguments

14. Applicant's arguments filed 29 December 2005 have been fully considered but they are not persuasive.

In response to applicant's argument that the disclosed substrate holder in the instant application permits suppression or reduction of unnecessary discharge occurring in a gap between the substrate holder and an electrode, as well as suppression or reduction of an uneven discharge on a substrate, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In regards to Applicant's argument against the rejection of Claim 1 as being anticipated by Bubenzer et al., the Examiner maintains that element 19 of Bubenzer et al. may be considered a substrate holder, as broadly recited in the claim, since it supports (holds) a substrate layer 23 to be processed. Conductive member 26 is electrically connected to electrode 5 and the substrate holder 19, as required by the claim. (Bubenzer et al., Abstract)

In other words, element 19 of Bubenzer et al. meets the structural limitations of the substrate holder as recited in the claim. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

In regards to Applicant's argument against the rejection of Claim 12, the Examiner recognizes that Bubenzer et al. fails to expressly teach certain features recited in Claim 12. Therefore, claim 12 was rejected under 35 U.S.C. 103 on the

Art Unit: 1763

grounds that it would have been obvious to one of ordinary skill in the art to construct conductive member 26 of a plurality of juxtaposed, closely spaced conductive strips, in order to allow damaged or overly coated (Bubenzer et al., Abstract) sections to be replaced without necessitating replacement of the entire conductive piece.

The Examiner notes that obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves *or in the knowledge generally available to one of ordinary skill in the art*. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the Examiner asserts that the motivation to modify the teachings of Bubenzer et al. would have been found in the knowledge generally available to one of ordinary skill in the art, as described above.

Conclusion

15. Applicant's amendment necessitated any new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

Art Unit: 1763

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Maureen G. Arancibia
Patent Examiner
Art Unit 1763



Parviz Hassanzadeh
Supervisory Patent Examiner
Art Unit 1763